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Ulrich Riegel

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EXAMINER

TAYLOR II, JAMES W

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,727	Applicant(s) RIEGEL ET AL.	
	Examiner JAMES TAYLOR II	Art Unit 4171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 22 is/are pending in the application.
- 4a) Of the above claim(s) 18-20 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/28/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 1-17 in the reply filed on July 2, 2008 is acknowledged. The traversal is on the ground(s) that (i) there is a common special technical feature between all presented groups as the reference used to show an *a posteriori* lack of unity does not act as prior art, (ii) the examiner incorrectly labeled group III as a method of using claim 1 in a prior action, and (iii) the examiner is not under serious burden required by M.P.E.P. § 803 to make a restriction requirement. The examiner is partially persuaded by applicant's arguments.

Regarding argument (i), the applicant alleges that *a posteriori* lack of unity is not established because the polymer the examiner referenced in Tomalia *et alli* (US 2001/0011109 A1) is not directed to hydrogel forming polymers, and therefore the reference is not prior art, and hence as there is not an *a priori* lack of unity and without a reference acting as prior art to establish an *a posteriori* lack of unity, there is a common special feature amongst the inventions. The examiner is not persuaded by this argument. Tomalia *et alli* states (par. 113) "these dendritic nanocomposites may be further transformed into clusters, gels, networks and other useful structures," and hence the examiner takes the position Tomalia *et alli*'s dendritic polymer inherently could be made into a swellable hydrogel. The examiner further notes that due to the claim language in the instant claim 1, the claimed dendritic polymer isn't necessarily a

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swellable hydrogel; it merely has to be capable of becoming a swellable hydrogel.

Claim 1 is obvious in light of Tomalia *et alli*'s dendritic polymer in view of Moore *et alli* (Chemistry: The Molecular Science, 1st Ed. Brooks/Cole Publishing, p. 164, tbl. 5.1), and as the instant claims special technical feature is claim 1, Tomalia *et alli* destroys the special technical feature.

Regarding the international search report, the applicant presents further evidence that restriction was not required in the international search report. To establish lack of unity *a posteriori*, the examining patent office has the burden of searching, finding, and presenting prior art to destroy the common technical features. As the international search report failed to present any prior art relevant to the common technical feature, no *a posteriori* lack of unity could be established. However, as stated above, the examiner maintains that Tomalia *et alli* qualifies as prior art for the instant application and hence the validity of the lack of unity stands.

Regarding argument (ii), the applicant alleges that the presented Group III is substantially the same as Group II. The examiner is persuaded. Therefore, the examiner withdraws the restriction requirement between Groups II and III. However, the restriction requirement is maintained between Groups I and II, creating the following:

Group I, claims 1-17, directed to the composition.

Group II, claims 18-20 and 22, directed to a method of making the composition.

The examiner contacted Mr. James J. Napoli by telephone on August 4, 2008 to ask if the applicant would like to shift inventions in light of removing the restriction

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requirement between Groups II and III. The applicant chose to maintain the initial election of Group I.

Regarding argument (iii), the examiner notes that chapter 800 of the M.P.E.P. is directed to patent applications filed under 35 U.S.C. § 111 and Double Patenting. For a patent filed under 35 U.S.C. 371, chapter 1800 governs, including for restriction practice. Therefore, the applicant's arguments are moot.

The requirement between Groups I and II is still deemed proper and is therefore made FINAL.

Claims 18-20 and 22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on July 2, 2008.

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 3/29/2004. It is noted, however, that the applicant has not filed a certified copy of the application as required by 35 U.S.C. 119(b).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

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obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 11/089276. Although the conflicting claims are not identical, they are not patentably distinct from each other because the polymer of the instant invention is used as an absorbent polymer in the copending application. The applicant stated on record in the reply filed on July 2, 2008 that the assignees of the instant application and Application No. 11/089276 were subject to a joint research agreement with respect to the subject matter of the invention.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomalia *et alli* (US 2001/0011109 A1) in view of Moore *et alli* (Chemistry: The Molecular Science, 1st Ed. Brooks/Cole Publishing, p. 164, tbl. 5.1).

Tomalia *et alli* teaches "nanocomposites of dendritic polymers." The dendritic polymer is swelled with solvent, and this mixture is added to a solution containing metal phosphates (par. 108). The dendritic polymers are stated to be used in gels (par. 113). Tomalia *et alli* fails to teach a water-insoluble phosphate *per se*. However, Moore *et alli* establishes that—with the exception of alkali metal phosphates—metal phosphates are water insoluble. One would, therefore, immediately envision insoluble metal phosphates, and hence it would have been obvious at the time of the invention for one of ordinary skill in the art to select an insoluble metal phosphate as most metal phosphates are metal soluble.

Claims 1, 4-6, and 8-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman *et alli* (US 5,562,646) in view of Hedstrand *et alli* (US 5,560,929) and Kobayashi *et alli* (US 5,489,469).

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Regarding claim 1, Goldman *et alli* discloses an absorbent core (fig. 1) for collection of body liquids such as urine, said core comprising an absorbent member, said member comprising a swellable hydrogel forming polymer (c. 9, l. 23) and further comprising in combination at least one hydrophilic polymer (c. 23, l. 67). The hydrophilic polymer's fiber selection (i.e., dendritic, other molecular structures) is disclosed (c. 23, ll. 50-55) to depend on the desired fluid handling properties. Powdered silica can be used as an additive (c. 2, l. 62). The use of hydrogel-forming absorbent particle size distributions with a median particle size of 400 microns or larger is known to be used to minimize gel blocking (c. 3, ll. 27-50). Therefore, it is clearly inherent that 50 weight % of particles will be 400 microns or larger, before or after a mechanical stress.

Although open to multiple morphologies, Goldman *et alli* does fail to teach dendritic structure. It further fails to teach adding water-insoluble phosphates to the composition, 90 wt % or greater of the particles between 150 and 500 microns in diameter, and AUL, SFC, and CRC physical property limitations.

Regarding the dendritic structure limitation, Hedstrand *et alli* teach that polymers with dendritic structures are useful as absorbents and gels (c. 1, ll. 35-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the hydrophilic polymer of Goldman *et alli* with dendritic structure as taught by Hedstrand, thereby further enhancing the Goldman *et alli*'s core's absorbance, since Hedstrand teaches their usefulness as absorbents and gels.

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Regarding the insoluble phosphates limitation, Kobayashi *et alli* expresses the desire for an absorbent polymer excellent in capacity, rate, and power of absorbing liquids, such as urine and other bodily discharged fluids (c. 1, ll. 55-60). Kobayashi *et alli* teaches an absorbent member comprising a swellable polymer, a hydrophilic polymer, and a water-insoluble phosphate system (c. 2, ll. 10-62). The water-insoluble phosphate can be calcium phosphate (c. 2, l. 62). Kobayashi states (c. 2, ll. 2-8) that the benefit of using a water-insoluble phosphate is that it improves the absorbency of the absorbent member. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Goldman *et alli*'s absorbent core to use Kobayashi *et alli*'s water-insoluble phosphates to enhance absorbency. Kobayashi further teaches the additive selected from the group consisting of metallic salt, pyrogenic silicic acid, diatomaceous earth, or combinations thereof (c. 2, ll. 61-67).

Regarding the 90 wt % or greater of the particles between 150 and 500 microns in diameter (and similar) limitation, as discussed above, it is desired that gel blocking is minimized. Geometrically, large particle polydispersity will increase density because smaller particles will fit between larger particles better, and hence gel blocking is not minimized. By controlling the particle size distribution to become monodisperse, one expects to minimize gel blocking, and hence increase absorbency. As established above, a 400 micron diameter is the lower boundary of the median particle size Goldman *et alli* discloses. But at or near 400 microns, with a reasonable monodispersity, the 90 wt % limitation will inherently be met. Therefore, it would have been obvious at the time of the invention to create a polymer wherein at least 90% of

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the particles are between 150 and 500 microns in diameter as this would be expected to increase bodily fluid absorbency.

Regarding the AUL, SFC, and CRC physical property limitations, as Goldman *et alli* in view of Hedstrand *et alli* and Kobayashi *et alli*'s composition is chemically the same as the claimed composition, the examiner takes the position that all of the AUL, SFC, and CRC physical properties claimed would inherently be met.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman *et alli* in view of Hedstrand *et alli* and Kobayashi *et alli*, as applied to claims 1, 4-6, and 8-17 above, further in view of Tomalia *et alli* (US 4,507,466).

Regarding claim 2, Tomalia *et alli* teaches that dendritic structure can be the reaction product of a wide variety of compounds to produce a dendritic structure (c. 9, ll. 20-25). As described at column 9 and Example 1C (c. 10, l. 50), Tomalia *et alli* teaches dendritic structures that are reaction products of, *inter alia*, a polyol (c. 9, l. 35) and various compounds to form a polyester. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a hydrophilic polymer that is the reaction product of a polyol and 2,2-dimethylolpropionic acid since Tomalia teaches (c. 9, ll. 45-40) dendritic structures can be prepared using procedures and conditions conventional for carrying out reactions of organic compounds with the particular organic reactant. Further, the examiner notes that upon examining the specification he failed to find any criticality or unexpected results arising from

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specifically using 2,2-dimethylolpropionic acid. Therefore this limitation is arbitrary and hence is obvious.

Regarding claim 3, Tomalia *et alli* teaches polyamidoamine (c. 4, l. 52).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman *et alli* in view of Hedstrand *et alli* and Kobayashi *et alli*, as applied to claims 1, 4-6, and 8-17 above, further in view of Chen *et alli* (US 6261679).

Chen *et alli* teaches a fibrous absorbent foam material (ab.) useful for absorption of body fluids (c. 2, ll. 43-49). Hollow microspheres can be utilized as a method to produce foam (c. 25, ll. 50-51). Said microspheres can be broken by mechanical forces such as compression to produce an open cavity, which would enhance absorbency (c. 25, ll. 53-57). Chen *et alli* discloses the microspheres can be about 10 to 1000 microns in diameter (c. 25, l. 58) and typically have a shell thickness of 1 to 5 microns (c. 25, l. 59). The function of the microspheres in the Chen *et alli*'s invention would be expected to be the same as in the Goldman *et alli* in view of Hedstrand *et alli* and Kobayashi *et alli*'s invention. Therefore, it would have been obvious at the time of the invention to use the hollow microspheres presented in Chen *et alli* in Goldman *et alli* in view of Hedstrand *et alli* and Kobayashi *et alli*'s invention to create a more absorbent material.

Examiner Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W Taylor II whose telephone number is

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(571) 270-5457. The examiner can normally be reached on 7:30 am to 5:00 pm (off every other Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or (571) 272-1000.

/Ling-Siu Choi/
Primary Examiner, Art Unit 1796

James W Taylor II
Examiner
Art Unit 4171

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